UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte MICHAEL ALAN REEVE

Appeal No. 2006-3211
Application No. 10/007,327

ON BRIEF

Before SCHEINER, ADAMS, and MILLS, Administrative Patent Judges.

ADAMS, Administrative Patent Judge.

REMAND TO THE EXAMINER

On consideration of the record we find this case is not in condition for a decision on appeal. For the reasons that follow, we remand the application to the examiner to consider the following issues and to take appropriate action.

Claims 1-3 are before us on appeal. The only remaining claims (claims 4-16) were withdrawn from consideration as drawn to non-elected subject matter. Brief, page 2. Claim 1 is illustrative of the subject matter on appeal and is reproduced below:

1. A composition consisting essentially of colloidal Fe_3O_4 particles coated with a biotin-binding protein.

The references relied upon by the examiner are:

Owen et al. (Owen)	4,795,698	Jan. 3, 1989
Rao et al. (Rao)	5,660,990	Aug. 26, 1997
Ekenberg	5,693,784	Dec. 2, 1997
Terstapen	6,228,624	May 8, 2001

GROUNDS OF REJECTION

Claims 1 and 2 stand rejected under 35 U.S.C. § 102(b) as anticipated by Owen.

Claims 1-3 stand rejected under 35 U.S.C. § 102(b) as anticipated by Ekenberg.

Claims 1-3 stand rejected under 35 U.S.C. § 102(b) as anticipated by Rao.

Claims 1-3 stand rejected under 35 U.S.C. § 102(e) as anticipated by Terstappen.

DISCUSSION

In our opinion, the examiner and appellant have not reached a meeting of the minds with regard to what exactly appellant is claiming as his invention. Initially, we note that the examiner failed to favor this record with a construction of the claimed invention. Nevertheless, as we understand the record, the examiner appears to read claim 1 as drawn to a composition consisting essentially of colloidal Fe_3O_4 particles, wherein the particles comprise colloidal Fe_3O_4 and a coating of biotin-binding protein. See e.g., Answer, page 5. In contrast, appellant appears to read claim 1 as drawn to a composition consisting

essentially of colloidal Fe_3O_4 particles, wherein the particles consist of colloidal Fe_3O_4 and a single coat of biotin-binding protein.

Apparently interpreting the particle limitation of the claims as drawn to particles that comprise colloidal Fe_3O_4 and a coating of biotin-binding protein, the examiner rejects the claimed invention as anticipated by four different patents. In maintaining the rejections, the examiner does not appear to dispute that each of these four patents teach colloidal Fe_3O_4 particles that comprise colloidal Fe_3O_4, a coating that aids in immobilizing biotin-binding protein and a coating of biotin-binding protein. See e.g., Answer, pages 5-6. In this regard, we note the examiner's assertion (Answer, page 6),

> [s]ince the instant claims are drawn to a composition and as long as the prior arts have all the components of the composition, such prior arts are applicable to the present invention. Moreover, the polymer coating or silanized coating in the prior arts, as stated above, aid in the immobilization of the ligand such as streptavidin or avidin, rather than negatively affecting the formation of the composition of the present invention.

In contrast, apparently interpreting the particle limitation of the claims as drawn to particles that consist of colloidal Fe_3O_4 and a single coat of biotin-binding protein, appellant insists that the prior art relied on by the examiner cannot anticipate the claimed invention. According to appellant (Brief, page 4), the examiner has "mischaracterized the instant invention." In support of this position, appellant asserts (Brief, page 6), "[s]ince the particles themselves are coated with biotin-binding proteins without the need for additional coatings, the

resulting particles have a very high iron content[1], which aids the speed and efficiencies of magnetic separations." See also Specification, page 3. In this regard, we note that Example 1, part (b) at page 6 of appellant's specification discloses that colloidal Fe_3O_4 particles are coated with streptavidin by adding streptavidin directly to the colloidal Fe_3O_4 particles. Upon review of the Brief, appellant's only argument against each anticipation rejection on this record is that each prior art reference discloses colloidal Fe_3O_4 particles that comprise more than one coating. See e.g., Brief, page 4, wherein appellant points out that Owen's iron oxide particles are first coated with a polymer and then these polymer coated particles are coated with a ligand such as avidin.

Therefore, in our opinion this case turns on the issue of claim construction. While, we take no action on the merits of the rejections of record, from the foregoing discussion it would appear that if the particle limitation of the claimed invention reads on particles that comprise colloidal Fe_3O_4 and a coating of biotin-binding protein, the claimed invention would be anticipated by the prior art of record. In contrast, if the particle limitation of the claimed invention reads on particles that consist of colloidal Fe_3O_4 and a single coat of biotin-binding protein, the claimed invention could not be anticipated by the prior art of record, because the prior art does not teach colloidal Fe_3O_4 particles that consist of colloidal Fe_3O_4 and a single coat of biotin-binding protein.

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[1] We understand this statement to mean that for each coated Fe_3O_4 particle the relative amount of iron in the particle is proportional to the amount of other ingredients in the particle. For example, if an Fe_3O_4 particle with one coating is composed of 70% iron and 30% other ingredients, the relative amount of iron in an Fe_3O_4 particle that has more than one coating will be 70% - (30% + X%), wherein "X" accounts for the additional coating's contribution to the particle's total composition. Therefore, the relative amount of iron per particle will be less in a particle with two coatings than it is for a particle with only one coating.

However, upon review of the record before us on appeal, we find that appellant's claims are indefinite. Claim 1 is drawn to "[a] composition consisting essentially of colloidal Fe_3O_4 particles coated with a biotin-binding protein." Claims 2 and 3 depend from and further limit the "biotin-binding protein" of claim 1 to "avidin or streptavidin" (claim 2), or "streptavidin" (claim 3).

As we understand appellant's argument (Brief, pages 5-7), claim 1 was amended during prosecution to add the "consisting essentially of" language in an attempt to clarify that the biotin-binding protein coating was the only coating on the colloidal Fe_3O_4 particles. According to appellant (Brief, page 6), "[s]ince the particles themselves are coated with biotin-binding proteins without the need for additional coatings, the resulting particles have a very high iron content, which aids the speed and efficiencies of magnetic separations."

However, upon consideration of appellant's argument, we disagree with appellant's construction of the claim. The transitional phrase "consisting essentially of" allows for the inclusion of other ingredients that do not affect the basic and novel properties of the invention.[2] As we understand appellant's argument, any ingredient added to the coated Fe_3O_4 particle other than the single biotin-binding protein coat will affect the basic and novel properties of the coated Fe_3O_4 particle by reducing the relative amount of iron in the particle. Therefore, since no other ingredient (e.g., an additional coating) can be added to the

[2] "'Consisting essentially of' is a transition phrase commonly used to signal a partially open claim in a patent. . . . By using the term 'consisting essentially of,' the drafter signals that the invention necessarily includes the listed ingredients and is open to unlisted ingredients that do not materially affect the basic and novel properties of the invention." PPG Indus. Inc. v. Guardian Indus. Corp, 156 F.3d 1351, 1354, 48 USPQ2d 1351, 1353-54 (Fed. Cir. 1998).

colloidal Fe_3O_4 particles that consist of colloidal Fe_3O_4 and a single coat of biotin-binding protein without reducing the relative amount of iron in the particle, the transitional phrase "consisting essentially of" cannot be read as modifying the particles. At best, the transitional phrase "consisting essentially of" can be read as applying to the term "composition", allowing an interpretation of the claim as drawn to a composition consisting essentially of coated colloidal Fe_3O_4 particles and some other ingredient (e.g. water). This does not, however, limit the coated colloidal Fe_3O_4 particles to those that consist of colloidal Fe_3O_4 and a single coat of biotin-binding protein, as it appears that appellant would have us interpret the claims.

Turning to the Answer, we find that the examiner failed to provide a reasonable basis for interpreting the particle limitation of the claim as drawn to particles that comprise colloidal Fe_3O_4 and a coating of biotin-binding protein. In this regard, we note that the examiner is correct in that "absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, 'consisting essentially of' will be construed as equivalent to 'comprising.' See, e.g., PPG, 156 F.3d at 1355, 48 USPQ2d at 1355). . . ." Answer, page 5. However, at page 4 of the Brief, appellant directed the examiner to pages 3-4 of the specification to assist the examiner in evaluating what appellant believes to be the basic and novel characteristics of the claimed invention. To this the examiner asserts (Answer, page 5),

> [t]he additional polymer coating fails to affect the basic and novel characteristics of the present invention because such a coating is well known in the art for providing functional groups to immobilize the affinity ligand such as a streptavidin or avidin.

> Therefore, the references applied in the previous office action are still relevant to the claims as presented.

This, however, does not address appellant's argument, which appears to relate to the relative concentration of iron in the particles. Therefore, the examiner leaves us with no construction of the claims that relates to the record before us on appeal.

As set forth in In re Zletz, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989):

> [D]uring patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed. . . . An essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process.

In this regard, we remind the examiner and appellant that analyzing claims based on "speculation as to meaning of the terms employed and assumptions as to the scope of such claims" is legal error. In re Steele, 305 F.2d 859, 862, 134 USPQ 292, 295 (CCPA 1962). As stated above, we find the claims to be indefinite. Accordingly, we decline to reach the merits of the rejections of record. Instead, we remand the application to the examiner to provide a clear construction of the claims on appeal. We note, however, that appellant should not be a bystander to this process. We encourage appellant to work together with the examiner to fashion claims that are precise, clear, correct, and unambiguous. After the examiner has had an opportunity to carefully construe the claimed invention, we encourage the examiner to take a step back and reconsider whether the rejections of record should be maintained.

For the foregoing reasons, we remand the application to the examiner for further consideration, consistent with the direction provided above. Any further communication from the examiner which contains a rejection of the claims should provide appellants with a full and fair opportunity to respond.

REMANDED

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